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(Reaffirmed 1993)

Indian Standard

SPECIFICATION FOR THERMOCOUPLE COMPENSATING CABLES

(Second Revision)

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SPECIFICATION FOR THERMOCOUPLE COMPENSATING CABLES (*Second Revision*)

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Indian Standard

SPECIFICATION FOR THERMOCOUPLE COMPENSATING CABLES

(Second Revision)

0. FOREWORD

0.1 This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards on 27 May 1987 after the draft finalized by the Industrial Process Measurement and Control Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 This Standard was first published in 1978. It was revised in 1983 to include additional types of commonly used compensating cables. It is now being revised to include constructional modifications in line with the present development.

0.3 The requirements and tests for thermocouples are covered in IS : 7358-1984*.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the requirements and tests for thermocouple compensating cables of the twin-core and multi-core type.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

*Specification for thermocouples.

†Rules for rounding off numerical values (revised).

2.1 Compensating Cable — A pair of wires having such emf temperature characteristics related to the thermocouple with which the wires are intended to be used, that when properly connected to thermocouple, the effective reference junction is in effect transferred to the other end of the wires.

2.2 Ovality — The greatest difference between the maximum readings of diameter at a cross-section.

2.3 Type Tests — Tests carried out to prove conformity with the requirements of this specification. These are intended to prove the general qualities and design of a given type of compensating cable.

2.4 Acceptance Tests — Tests carried out on samples taken from a lot for the purpose of acceptance of the lot.

2.5 Routine tests — Tests carried out on each compensating cable to check the requirements likely to vary during production.

3. TYPES

3.1 The thermocouple compensating cables, twin-core or multi-core shall be classified into a number of types as given in Tables 1 and 2 respectively.

4. CONDUCTOR

4.1 The materials for the conductors of thermocouple compensating cables and their thermo emfs (over a temperature range of 0 to 200°C) shall be as given in Table 3.

5. INSULATION AND SHEATH

5.1 Rubber — The silicon rubber used for insulation or sheath of compensating cables shall comply with IS : 6380-1984*.

5.2 PVC — PVC used for insulation of compensating cables shall comply with Type C of IS : 5831-1984†. PVC used for sheath shall comply with type ST 2 of IS : 5831-1984‡.

5.3 Asbestos — Woven asbestos tape or yarn used for insulation shall generally conform to IS : 6230-1970‡. The asbestos braiding for sheath shall be of good quality asbestos yarn.

*Specification for elastomeric insulation and sheath of electric cables (*first revision*).

†Specification for PVC insulation and sheath of electric cables (*first revision*).

‡Specification for woven asbestos tape for electrical insulating purposes.

TABLE 1 TYPES OF THERMOCOUPLE COMPENSATING CABLES (TWIN-CORE)

(*Clauses 3.1 and 8.1*)

TYPE	WIRE SIZE mm	BRIEF DESCRIPTION
(1)	(2)	(3)
Type 1	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated and braided with asbestos positive and negative lead twisted
Type 2	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated with teflon (PTFE) and braided with asbestos, both leads in common asbestos braiding; oval shaped
Type 3	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated with asbestos, positive and negative leads bound together with a cloth band with a 0·8 mm thick lead sheath and final braiding of galvanized iron core; oval shaped
Type 4	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead covered with temperature and moisture resistant foil coated with asbestos, both leads in common asbestos braiding; oval shaped
Type 5	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated 0·5 mm thick with PVC, positive and negative leads twisted together
Type 6	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated 0·5 mm thick with PVC, both leads in common 0·8 mm thick PVC sheathing; oval shaped
Type 7	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated 0·8 mm thick with PVC, both leads in common asbestos braiding; oval shaped

(*Continued*)

TABLE 1 TYPES OF THERMOCOUPLE COMPENSATING CABLES (TWIN-CORE) — *Contd*

TYPE	WIRE SIZE mm	BRIEF DESCRIPTION
(1)	(2)	(3)
Type 8	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead insulated 0·6 mm thick with silicon rubber; final overall covering of asbestos braiding; oval shaped
Type 9	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated 0·6 mm thick with silicon rubber, both leads in common silicon rubber sheathing 0·8 mm thick; round shaped
Type 10	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Each lead coated with 0·6 mm thick silicon rubber; final covering with 0·8 mm thick silicon rubber and fibreglass braiding; round shaped
○ Type 11	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Cores individually fibre glass insulated, varnished and asbestos/fibreglass braided; both cores in common asbestos/fibreglass braiding with suitable heat resistant varnish for fibreglass braiding; oval shaped
Type 12	a) 1/1·422 b) 3/0·711 c) 7/0·508 d) 19/0·315	Cores 0·5 mm thick PVC insulated, both cores in common 0·6 mm thick PVC sheathing and overall asbestos braided; oval shaped
Type 13	1/1·422	a) Each lead coated with 0·5 mm thick PVC, positive and negative leads twisted together b) Both leads shielded in common aluminium-polyester foil having minimum 25 percent overlap c) An annealed tinned copper drain wire of size 1/1·016, 7/0·345 or 19/0·20 mm diameter to be laid under and in contact with the aluminium surface of the foil d) Inner PVC sheath or filling, 0·8 mm thick e) Galvanized iron/steel wire armouring (optional) f) Overall flame retardant PVC sheathing of thickness 1·0 mm nominal

NOTE — Unless otherwise specified, values of dimensions are nominal values.

TABLE 2 TYPES OF THERMOCOUPLE COMPENSATING CABLES (MULTI-CORE)

(Clause 3.1)

TYPE	NO. OF PAIRS	OVERALL SHEATH THICKNESS (t) (NOMINAL) mm	BRIEF DESCRIPTION FOR ALL TYPES OF CABLES
(1)	(2)	(3)	(4)
Type 14 (wire size = 0.812 mm, conductor insulation thickness = 0.375 mm, nominal)			a) Each conductor insulated with 1.5 kV grade PVC insulation, positive and negative leads twisted together to form a pair, pairs to be identified by one of the following: 1) printed or embossed number at regular intervals. 2) a distinguishing colour thread twisted together with each pair, 3) by a numbered tape, and 4) by a distinguishing coloured tracing running along the entire length of each lead
14A	2	1.0	b) Individual pairs shall preferably be shielded with aluminium-polyester foil of minimum 40 μ m thickness with at least 25 percent overlap
14B	4	1.0	c) Pairs laid together to form a bundle
14C	6	1.5	d) Bundle of pairs having two numbers telephone wire (optional) of 0.812 mm or 7/0.254 mm diameter, insulated individually with 0.5 mm thick PVC and coloured orange
14D	8	1.5	e) An annealed tinned copper drain wire of size 1/1.016 or 7/0.345 mm or stranded wires of equivalent cross-section shall be laid under and in contact with the aluminium portion of the aluminium-polyester foil
14E	10	1.5	f) The bundle shall be shielded with aluminium-polyester foil 40 μ m having minimum 25 percent overlap
14F	12	1.5	g) Intermediate black PVC filling, 1 mm thick (nominal)
14G	16	1.5	h) Armour/braiding by galvanized iron/steel wire or strips (optional) j) Overall sheathing with flame retardant PVC

TABLE 3 RECOMMENDED CONDUCTOR MATERIALS FOR THERMOCOUPLE COMPENSATING CABLES

(Clause 4.1)

Sl No.	TYPE OF THERMOCOUPLE	MATERIAL OF COMPENSATING CABLES		THERMO-EMF OF COMPENSATING CABLE REF
		Positive Lead	Negative Lead	
(1)	(2)	(3)	(4)	(5)
i)	Copper-constantan (Cu-Con)	Copper (Cu)	Constantan (Con) or equivalent	IS : 2056-1962*
ii)	Iron-constantan (Fe-Con)	Iron (Fe)	Constantan (Con) or equivalent	IS : 2057-1962†
iii)	Nickel/chromium-nickel/ aluminium (Ni/Cr-Ni/Al) (Chromel-alumel)	a) Nickel/chro- mium (Ni/Cr) b) Iron c) Copper	Nickel/aluminium (Ni/Al) Copper-nickel alloy Copper-nickel alloy	IS : 2054-1962‡ See Note 1
∞ iv)	Platinum/rhodium-platinum (Pt/Rh-Pt)	Copper	Copper-nickel alloy	IS : 2055-1962§
v)	Platinum/rhodium-platinum/ rhodium (P/Rh-Pt/Rh)	a) Copper b) Copper	Copper-nickel alloy Copper	IS : 6720-1972 See Note 1
vi)	Nickel/chromium-nickel/copper (Ni/Cr-Ni/Cu)	Nickel/chromium (Ni/Cr)	Kopel or equivalent	IS : 7988-1976¶
vii)	Nickel/chromium-constantan (Ni/Cr-Con)	Nickel/chromium (Ni/Cr)	Constantan (Con) or equivalent	IS : 10626-1983**

NOTE — To be used in the range of 0 to 100°C.

*Reference tables for copper-constantan thermocouples.

†Reference tables for iron-constantan thermocouples.

‡Reference tables for nickel/chromium-nickel/aluminium thermocouples.

§Reference tables for platinum/rhodium-platinum thermocouples.

||Reference tables for platinum/30 percent rhodium-platinum/6 percent rhodium thermocouples.

¶Reference tables for chromel-kopel thermocouples.

**Reference tables for nickel/chromium-copper/nickel (chromel-constantan) thermocouples.

5.4 Glass Fibre — Where used, the yarns of glass-fibre braiding shall be continuous filament glass-fibre containing not more than 1 percent of alkali calculated as sodium oxide (Na_2O).

6. ARMOURING

6.1 The armouring shall be galvanized steel wires or strips conforming to IS : 3975-1979*. Alternatively, it may be of braiding or mesh.

6.2 Following sizes of wires should be used in armouring:

<i>Dia of Cable Under Armouring</i>	<i>Nominal Dia of Screened GI Armour wire</i>
Up to 8 mm	0.70 mm
Above 8 mm and up to 10 mm	0.91 mm
Above 10 mm and up to 15 mm	1.20 mm

Where GI braid armouring is provided, it shall consist of 0.2 to 0.3 mm dia GI wire braid of minimum 75 percent coverage.

7. SHIELDING

7.1 The shielding should be of plain or tinned braided copper. Alternatively, it may be of heat resistant aluminium polyester foil.

NOTE — Any other material, as agreed to between the manufacturer and the purchaser, may be employed.

8. NOISE REDUCTION

8.1 Drain Wire — A drain wire shall be provided with aluminium shield, to protect against electrostatic noise. Copper drain wire shall be as given in Tables 1 and 2 as applicable. Drain wire shall be continuous.

8.2 To reduce electromagnetic noise and pick up, thermocouple compensating should be paired and provided with staggered lay. Cable pairs should also be twisted, lay of twisting being 25 to 70 mm, in multi-paired cables.

9. DIMENSION

9.1 Single Wire — The core shall be:

- a) for twin-core unarmoured compensating cable:
 - 1) solid wire; or
 - 2) stranded wire each of diameter as shown in col 2 of Table 1;

*Specification for mild steel wires, strips and tapes for armouring of cables (first revision).

- b) for twin-core armoured compensating cable, solid wire of diameter as given in Table 1.

9.1.1 Tolerances — The tolerances on wire diameters shall be ± 5 per cent of nominal wire diameter.

9.1.2 Ovality — The ovality of each wire shall be not more than 50 per cent of the tolerance on the diameter.

9.2 Insulation and Sheath

9.2.1 The smallest of the measured values of thickness of insulation shall not fall below the nominal values specified (t in mm) by more than $0.1 \text{ mm} + 0.1 t$ and the average thickness of insulation shall not be less than nominal value specified (t in mm).

9.2.2 The smallest of the measured values of thickness of sheath shall not fall below the nominal value specified (t in mm) by more than $0.2 \text{ mm} + 0.1 t$ and the average thickness of sheath insulation shall not be less than nominal value specified (t in mm).

9.3 Cables — The dimensions of different types of thermocouple compensating cables, twin-cored, shall be as given in Table 4.

10. COLOUR CODE

10.1 The recommended colour code for the compensating cable shall be as given in Table 5.

11. ENVIRONMENTS FOR USE OF DIFFERENT THERMOCOUPLE COMPENSATING CABLES

11.1 The application of different types of thermocouple compensating cables depending upon the environments for use is given in Table 6.

12. INFORMATION TO BE SUPPLIED BY THE MANUFACTURER

12.1 The manufacturer of the thermocouple compensating cables shall supply the following information regarding cables:

- a) Electrical resistance at 20°C ,
- b) Mean temperature coefficient of electrical resistance, per $^{\circ}\text{C}$,
- c) Maximum temperature of use,
- d) Weight of the cable per unit length, and
- e) Minimum insulation resistance at 27°C .

TABLE 4 DIMENSIONS OF COMPENSATING CABLES

TYPE	NOMINAL CROSS-SECTIONAL AREA, mm ²	APPROXIMATE OVERALL DIMENSIONS, mm
(1)	(2)	(3)
Type 1	1.50 1.19 1.42 1.50	4.5 to 5, individual lead
Type 2	1.50 1.19 1.42 1.50	5 × 8, oval
Type 3	1.60 1.19 1.42 1.50	4.3 × 7 to 5 × 8, oval
Type 4	1.60 1.19 1.42 1.50	4.3 × 7 to 5 × 9, oval
Type 5	1.60 1.19 1.42 1.50	3.5φ, individual lead
Type 6	1.60 1.19 1.42 1.50	5 × 8 to 5 × 9, oval
Type 7	1.60 1.19 1.42 1.60	5 × 8, oval
Type 8	1.60 1.19 1.42 1.50	5 × 8, oval
Type 9	1.60 1.19 1.42 1.50	5.7φ
Type 10	1.60 1.19 1.42 1.50	5.7φ
Type 11	1.60 1.19 1.42 1.50	5.5 × 8, oval
Type 12	1.60 1.19 1.42 1.50	5.5 × 8, oval
Type 13	1.60	13φ

TABLE 5 RECOMMENDED COLOUR CODE FOR THERMOCOUPLE COMPENSATING CABLES

(Clause 10.1)

Sl No.	THERMOCOUPLE	COLOUR OF INSULATION OF LEADS		
		Overall	Negative	Positive
(1)	(2)	(3)	(4)	(5)
i)	Copper-constantan (Cu-Con)	Black	Black	Red
ii)	Iron-constantan	Blue	Blue	Red
iii)	Nickel/chromium-nickel/aluminium (Ni/Cr-Ni/Al) (chromel-alumel)	Green	Green	Red
iv)	Platinum/rhodium-platinum (Pt/Rh-Pt)	White	White	Red
v)	Platinum/rhodium-platinum/rhodium (Pt/Rh-Pt/Rh)	Yellow	Yellow	Red
vi)	Nickel/chromium-nickel/copper (Ni/Cr-Ni/Cu)	Violet	Violet	Red
vii)	Nickel/chromium-constantan (Ni/Cr-Con)	Violet	Violet	Red

NOTE — In case of insulations, where it is not possible to obtain the colour, for example, asbestos, metal wire braiding, etc, identification thread or tape of the colour specified above may be employed.

13. PACKING AND MARKING

13.1 The thermocouple compensating cable shall be wound on reels or supplied on coils packed and labelled.

13.2 The label, which shall be securely attached to the reel or coil, shall have the following information:

- Manufacturer's name or trade-mark, if any;
- Type of thermocouple;
- Material of the leads;
- Number of cores;
- Number of wires and wire diameter;
- Nominal cross-sectional area of conductor; and
- Length of cable contained in the reel or coil.

13.2.1 The label may also be marked with the Standard Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards (Certification Marks) Act and the Rules and Regulations made thereunder. The Standard Mark on products covered by an

Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or processors, may be obtained from the Bureau of Indian Standards.

14. TESTS

14.1 Classification of Tests

14.1.1 Type Tests — The following shall constitute type tests:

- a) Thermal emf test (14.2),
- b) Resistance test (14.3),
- c) Test for thickness of insulation and sheath (14.4),
- d) Drain wire continuity test (14.6),
- e) High voltage test (14.7),
- f) Test for armour wires (see IS : 3975-1975*),
- g) Insulation resistance test (before and after high voltage test (14.5), and
- h) Heat shock test (14.8).

14.1.2 Acceptance Tests — The following shall constitute acceptance tests:

- a) Thermal endurance test (14.2),
- b) Resistance test (14.3),
- c) Test for thickness of insulation and sheath (14.4),
- d) Insulation resistance test (14.5),
- e) Drain wire continuity test (14.6), and
- f) High voltage test (14.7).

14.1.3 Routine Tests — The following shall constitute routine tests:

- a) Resistance test (14.3),
- b) Insulation resistance test (before high voltage test) (14.5), and
- c) Drain wire continuity test (14.6).

14.1.3.1 Sampling plan — A recommended sampling plan and the criteria for acceptance of the lot is given in Appendix A.

*Specification for mild steel wires, strips and tapes for armouring cables (first revision).

TABLE 6 APPLICATION OF THERMOCOUPLE COMPENSATING CABLES
(Clause 11.1)

APPLICATION

	(1)	(2) Up to 70°C	(3) Up to 100°C	(4) Up to 200°C	(5) Dry Surroundings	(6) Moist Surroundings	(7) Water Steam	(8) Petrol	(9) Benzol	(10) Weak Acids	(11) Weak Alkalis	(12) Mineral Oil	(13) Radioactivity	(14) Electromagnetic Disturbance	(15) Combustibility/Inflammability
Type 1	+	+	+	+	+	+	+	0	0	+	+	0	+	+	0
Type 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0
Type 3	+	+	+	+	+	+	+	0	0	+	+	+	+	+	0
Type 4	+	+	+	+	+	+	+	0	0	+	+	+	+	+	0
Type 5	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0
Type 6	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0
Type 7	+	+	+	+	+	0	0	+	+	+	+	+	+	+	0
Type 8	+	+	+	+	+	0	0	+	+	0	+	+	+	+	0
Type 9	+	+	+	+	+	+	0	+	+	+	+	+	+	+	0
Type 10	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0
Type 11	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0
Type 12	+	+	+	+	+	+	+	0	+	+	+	+	+	+	0
Type 13	+	+	+	+	+	+	+	0	+	+	+	+	+	+	0
Type 14	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0

Meaning of symbols:

+ = Can be used

- = Cannot be used

c = Non-combustible

0 = Can be used to limited extent

b = Self-extinguishing

NOTE — In any of the above varieties, provision for electrostatic disturbances and/or greater mechanical strength can be made by:

- heat and moisture resistant aluminium-polyester foil,
- galvanized iron or steel wires/strips armouring or braiding, or
- tinned copper wire braiding.

14.2 Thermal emf Test — The compensating cable shall be tested for millivolt output with the reference junction maintained at 0°C.

14.2.1 The hot junction shall be dipped in a constant temperature bath. Other ends of the cable shall be connected to a thermocouple test set or suitable potentiometer. The emf generated shall be noted on the test set for at least 4 or 5 temperatures over a temperature range of 0°C to the maximum temperature prescribed in Table 6 or the temperature stated by the manufacturer. The allowable tolerance on temperature shall be $\pm 3^\circ\text{C}$.

14.3 Resistance Test — The dc resistance of the conductor shall be measured at room temperature and corrected to the reference temperature of 20°C.

14.3.1 The corrected resistance value thus obtained shall be within ± 10 percent of the nominal value of resistance (ohm/m) declared by the manufacturer.

14.4 Test for Thickness of Insulation and Sheath

14.4.1 Insulation — Determination of the thickness shall be made on a representative sample of cable, 30 cm long, not less than 30 cm taken from the end of a factory length of cable.

14.4.1.1 The measurement shall be made at 3 different points at not less than 7.5 cm intervals along the length. At each point, the measurement shall be made at equidistant points around the periphery.

14.4.1.2 The measured diameter of the conductor shall be subtracted from the average of these measurements. The difference shall be divided by 2 to give the insulation thickness.

14.4.2 Sheath

14.4.2.1 Round — Nine measurements shall be made over the sheath in a manner similar to that used for insulation in 14.3.1. The diameter over the laid up cores armour, as the case may be, shall be subtracted from the average of the measurements. The difference shall be divided by 2 to give sheath thickness.

14.4.2.2 Oval — Measurements shall be made at 3 different points at not less than 7.5 cm intervals along the length. At each point, these measurements shall be made; one at diametrically opposite points along the major axis and two at diametrically opposite points parallel to the direction of minor axis. The dimension over the laid-up cores shall be subtracted from the average of the nine measurements. The difference shall be divided by 2 to give sheath thickness.

14.5 Insulation Resistance Test — The test methods and requirements for rubber insulated or sheathed compensating cables shall be in accordance with IS : 6380-1984* and for PVC insulated or sheathed compensating cables in accordance with IS : 5831-1984†.

14.5.1 The tests shall be carried out at 500 V.

NOTE — Test method and requirements for asbestos covered cables are under consideration.

14.6 Drain Wire Continuity Test — Drain wire shall be tested for continuity.

14.7 H.V. Test (for Type 13 and 14 Cables Only) — The compensating cable shall satisfactorily withstand high voltage test as applied below:

- a) 1.5 kV 50 Hz between conductors for 1 minute,
- b) 500 V 50 Hz between conductors and shield drain wire for 1 minute,
- c) 125 V 50 Hz between adjacent shield for 1 minute, and
- d) 500 V 50 Hz between shield and armour wire for 1 minute.

14.8 Heat Shock Test (for PVC Insulation and Sheath) — Insulation and sheath shall be subjected to heat shock test as given in IS : 10810 (Part 14)-1984‡ at a temperature $150 \pm 2^{\circ}\text{C}$. There shall be no signs of cracks or scales after this test (see IS : 5831-1984†).

APPENDIX A

(Clause 14.1.3.1)

SAMPLING OF THERMOCOUPLE COMPENSATING CABLES

A-1. SCALE OF SAMPLING

A-1.1 Lot — In a consignment, all the thermocouple compensating cables of the same type, manufactured from the same raw material under similar conditions of production, shall be grouped together to constitute a lot.

A-1.2 The number of compensating cables to be selected from each lot shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 7.

*Specification for elastomeric insulation and sheath of electric cables (*first revision*).

†Specification for PVC insulation and sheath of electric cables (*first revision*).

‡Methods of test for cables: Part 14 Heat shock test.

A-1.2.1 These compensating cables shall be selected from the lot at random. In order to ensure the randomness of selection, procedure given in IS : 4905-1968*, shall be followed.

A-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 The compensating cables shall be selected at random in accordance with col 1 and 2 of Table 7. Two metres from the end of each of these cables shall be taken for acceptance tests. A cable failing to satisfy any of these requirements shall be considered as defective. The lot shall be considered as conforming to the requirements of this standard, if no defective is found in the sample; otherwise the lot shall be rejected.

TABLE 7 SAMPLE SIZE

(*Clauses A-1.2 and A-2.1*)

LOT SIZE (1)	SAMPLE SIZE (2)
Up to 15	3
16 to 25	5
26 to 50	8
51 and above	13

*Methods for random sampling.

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